ATTACHMENT B

CURRICULUM VITAE
MINGQING XIAO
Southern Illinois University, Carbondale, IL 62901-4408
Ph: (618) 453-6572. Fax: (618) 453-5300. Email: mxiao@math.siu.edu

RESEARCH AREAS: Systems and Control, Scientific Computing, Mathematical Biology, Numerical PDEs, and Optimization.

EDUCATION

1. University of California at Davis, Postdoc (Mentor: Arthur J. Krener), 1997-1999.
2. University of Illinois at Urbana-Champaign, Ph.D. (Thesis Adviser: Tamer Başar), Control Theory, 1997.
3. University of Illinois at Urbana-Champaign, Computational Science & Engineering, M.S., 1995.
4. Sun Yat-Sen University, China, Applied Mathematics, M.S., 1989.
5. Guangdong University of Technology, China, Mathematics, B.S., 1983.

PROFESSIONAL EXPERIENCE

1. Professor, Department of Mathematics, Southern Illinois University, Carbondale (since July 2007).
2. Guest Professor, Shenzhen University, China, since December, 2015).
3. Guest Professor, University of Electronic Science and Technology of China (since March 2015).
4. Southern Illinois University Faculty Senator (2012-2015).
5. Guest Professor, Guangdong University of Technology, China (since March 2010).
6. IEEE senior member (since 2006).
7. Associate Professor, Department of Mathematics, Southern Illinois University, Carbondale, IL (July 2002–June 2007)
8. Assistant Professor, Southern Illinois University, Carbondale, IL (January 2000–June 2002).
9. Summer Faculty Fellow, US Air Force Research Laboratory (Air Vehicles), Wright-Patterson, Ohio, Summer 2001 and 2002.
10. Visiting Research Assistant Professor, Department of Mathematics, University of California, Davis, CA (July 1997–December 1999).
11. Visiting Scholar, Board of Studies in Applied Mathematics, Chinese University of Hong Kong, Hong Kong, Summer 1990.
12. Research Fellow & Lecturer, Department of Mathematics, Sun Yat-Sen University, China (June 1989–August 1991).

TEACHING EXPERIENCE

A. Teaching Interests and Specialties: working with students from diverse backgrounds.
B. Teaching Awards and Honors:
   (1) **1994, 1995** On the *Incomplete List of Teachers Ranked as Excellent by their Students*, University of Illinois at Urbana-Champaign. Three times nominated for departmental teaching award (1994–96).
   (2) **1985**, *Outstanding Teacher of Guangdong Province*, China.

1

RESEARCH AWARDS

A. Research Grants:

1. Natural Science Foundation of Guangdong Province of China, Co-PI, RMB 1, 200, 000 (approximately $180, 000), 2018-2022 (with Shuting Cai and Xiaoming Xiong).
2. National Science Foundation, *Numerical Approximation of Joint Spectral Radius by Lower Rank Matrix Sets*, DMS-1419028, PI, $90, 000, 2014-2017 (with J. Xu).
3. Qatar Research Foundation, *State Estimation and Observer Design for Nonlinear Dissipative PDE Systems*, NPRP8-1679-2-701, $205,849, PI, 2012-2015 (with T. Huang).
4. SIUC internal grant, *Modeling and Analysis of Antioxidants on Horticulture Crops in Relation to Agricultural Practices in Southern Illinois*, $4, 600, PI, 2015-2016 (with M. Lefticariu, B. Taylor, and D. Xu).
5. National Science Foundation, *Collaborative Research: Vulnerable host stages, development time and host-parasitoid stability - The first experimental test*, NSF-1021203, $210, 000, Co-PI, 2010-2015 (with J. Reeve and D. Xu).
6. National Science Foundation, *Study of Observability of Nonlinear Distributed Parameter Systems with Applications to Aeroengines and Chemical Reactions*, $91, 000, PI, NSF-0605181, 2006–2010.
7. National Science Foundation, *Symposium on New Trends in Nonlinear Dynamics and Control and their Application*, $12, 500, PI, NSF-0206627, 2002–2003.
8. Air Force Office of Scientific Research, *Flow Control*, $10, 000, Co-PI, RMA5H, 2002–2003 (with Wei Kang).
9. SIU Faculty Seed Grant, *Fluid dynamics and Flow Control*, $8000, PI, 2003.
10. US Air Force Summer Faculty Fellowship, *Study of Flow Control*, $21, 000, 2002.
11. US Air Force Summer Faculty Fellowship, *Study of Flow Control*, $21, 000, 2001.
12. University of Illinois Research Fellowship, summer 1995, 1996–1997.

B. Honor Received: SIU College of Science Scholar Excellence Award, 2016.

EDITORIAL BOARDS

(1) *IEEE Transactions on Automatic Control* 2004-2007.
(2) *Automatica* 2008-2011.
(3) *European Journal of Control* since 2010.
(4) *Nonlinear Analysis: Hybrid Systems* 2011-2015.
(5) *International Journal of Sensors, Wireless Communications and Control* since 2011
(6) *Numerical Algebra, Control and Optimization* since 2010.
(7) *the Open Electrical & Electronic Engineering Journal* since 2007.
(8) *International Journal of Innovational Computing, Information, and Control* since 2004.
(9) *the Open Automation and Control Systems Journal* 2007-2010.
(10) *Recent Patents on Electrical Engineering* since 2008.
(11) *ICIC Express Letters* 2008-2010.
(12) *Mathematical Problems in Engineering*, guest editor, 2011-2012.
(13) *Journal of Franklin Institute*, guest editor, 2014-2015.

PROFESSIONAL SERVICE

1. Membership in Professional Associations: AMS, SIAM, IEEE (senior member).
2. Evaluation of Manuscripts for Journals:
   (a) Journal of Fluid Mechanics;
   (b) IEEE Trans. Automat. Control;

  (c) Automatica;

  (d) SIAM Journal Control and Optimization;

  (e) Mathematics of Control, Signal and Systems;

  (f) Asian Journal of Control.

  (g) Journal of Franklin Institute.

  (h) Applied Mathematics Letters.

  (i) Systems & Control Letters.

  (j) Journal of Robust and Nonlinear Control.

  (k) SIAM Journal Multiscale Modeling and Simulation.

  (l) European Journal of Control.

  (m) International Journal of Bifurcation & Chaos.

  (n) Journal of Mathematical Analysis and Applications.

  (o) International Journal of Control.

  (p) Nonlinerarities.

  (q) Nonlinear Dynamics.

3. Evaluation of grant proposals for:

  (a) US-Israel Binational Science Foundation (2010-present);

  (b) Romanian National Council for Scientific Research (2011-present).

SELECTED INVITED PRESENTATIONS

(1) Keynote Speaker of the *Symposium on Interdisciplinary Computation & Optimization* (SICO 2017), July 20-26, Ballarat, Australia, 2017.

(2) Invited speaker of the *2013 World Congress on Global Optimization* (WCGO 2013), July 7-12, The Yellow Mountains, China, 2013.

(3) Invited speaker of the *2010 International Conference on Computational Intelligence and Security* (CIS'10), Dec. 11-14, Nanning, China, 2010.

(4) "Recent development of nonlinear observer design", *Sun Yat-Sen University*, Guangzhou, May 19, 2010.

(5) "Hopf bifurcation of the viscous Moore-Greitzer PDE model", *South China Normal University*, Guangzhou, Dec. 19, 2009.

(6) "Feedback Stabilization of Aeroengines", *University of Maryland* at Baltimore, Oct. 10, 2008.

(7) "Chaotic Systems and Discrete-time Observer Design", *Center for Chaos and Synchronization, City University of Hong Kong*, Hong Kong, March 3, 2006.

(8) "Feedback Control of Compression Systems", *Dept. of Mathematics, University of Georgia*, Athens, March 3, 2003.

(9) "Feedback Control of Circular Cylinder Wake: Finite Difference Approach", *US Air Force Research Laboratory*, Wright-Patterson, Ohio, July 30, 2002.

(10) "Control of Circular Cylinder Wake via Energy Method", *US Air Force Research Laboratory*, Wright-Patterson, Ohio, July 25, 2001.

(11) "Flow Control of Compression Systems", *Engineering School, Case Western Reserve University*, April 4, 2001, Cleveland, Ohio.

(12) "Nonlinear Observer Design in the Siegel domain", *AMS Spring Central Section Meeting in Lawrence*, KS, March 30, 2001.

(13) "Nonlinear Observer Design through Coordinate Changes", the *5th International Federation of Automatic Control* (IFAC), Saint-Petersburg, Russia, July 4–6, 2001.

(14) "Center Manifold of Compression Systems", *University of California*, Davis, June 10, 1999.

(15) "Control of Compression Systems", *Tennessee Technological University*, Cookeville, Tennessee, March 1, 1999.

(16) "Control of Rotating Stall in Jet Engines", *California State University*, Chico, April 8, 1999.

(17) "Control of Hopf Bifurcations of PDEs", *Santa Clara University*, Santa Clara, California, April 13, 1999.

(18) "Characteristics of Control Problems Under Disturbances", *Iowa State University*, Ames, Iowa, February, 1998.

(19) "*H*-infinity Optimal Control Problems", *Western Michigan University*, Kalamazoo, Michigan, March 12, 1997.

(20) "Feedback Control of a Class of Nonlinear Distributed Parameter Systems", *Chinese University of Hong Kong*, June 12, 1990.

UNIVERSITY SERVICE

A. Department Committee: Math Field Day, Spring and Fall 2000.

B. Department Committee: Engineering Liaison Committee, Fall 2001 and Spring 2002.

C. Department Committee: Engineering Liaison Committee, Personnel Committee, Graduate Advisor Committee, Promotion Committee, Fall 2002 and Spring 2003.

D. Department Committee: Planning Committee, Graduate Advisor Committee, and Engineering Liaison Committee. Calculus Course Chair, Spring and Fall 2004.

E. Department Committee: Numerical Analysis Search Committee, Planning Committee (2005).

F. Department Committee: Analysis Search Committee (Spring 2006), Graduate Advisor Committee (2006-present), and Engineering Liaison Committee (2005-present), Colloquium Coordinator (2006-2011).

G. Math 113 Course Chair (2005-2010).

H. University Morris and Doctoral Fellowship review panel(2010-2013).

I. SIU ORDA internal grant review panel (Spring 2011).

J. Agriculture Dean Search Committee (Fall 2011-Spring 2012).

K. Faculty Senate, 2012-2015.

L. College of Science Dean Search Committee, Sept.-Dec., 2013.

M. Faculty Status and Welfare Committee, 2012-2014.

N. Senate Budget Committee, 2014-2015.

SOCIETY SERVICE

(1) Program Committee, *SIAM Conference on Control and Its Applications*, to be held at Pittsburgh, PA, July 10-12, 2017.

(2) Organizing Committee, *International Federation of Automatic Control (IFAC) Nonlinear Control Symposium*, Monterey, CA, August 23-25, 2016.

(3) Technical Committee, *International Conference on Mechanical Engineering and Control Automation*, Wuhan, China, January 9-10, 2016.

(4) Program Committee, *SIAM Conference on Control and Its Applications*, Paris, France, July 8-10, 2015.

(5) Program Committee, *SIAM Conference on Control and Its Applications (CT13)*, San Diego, CA, 2013.

(6) Technical Committee, *the 18th IFAC World Congress*, Milan, Italy 2011.

(7) International Committee, *the 2nd International Conference on Innovative Computing*, Japan, 2007.

(8) Session Chair, *2005 American Control Conference*, Portland, Oregon, June 8–10, 2005.

(9) Organizer of international *Symposium on New Trends in Nonlinear Dynamics and Control and Their Applications*, Monterey, California, October 18–19, 2002. (with Wei Kang and

4

Carlos Borges).

(10) Session Chair, the *40th IEEE Conference on Decision and Control*, Orlando, Florida, December 4–7, 2001.

(11) Organizer of a technical session in the *Fifth SIAM Conference on Control and its Applications*, San Diego, California, July 11–14, 2001.

(12) Organizer of two technical sessions in the *5th International Federation of Automatic Control* (IFAC), Saint-Petersburg, Russia, July 4–6, 2001.

(13) Organizer of two technical sessions in the *39th IEEE Conference on Decision and Control*, Sydney, Australia, 2000.

(14) Session Chair, the *39th IEEE Conference on Decision and Control*, Sydney, Australia, 2000.

(15) Session Chair, the *37th IEEE Conference on Decision and Control*, Tampa, Florida, 1998.

PUBLICATIONS

Book Edited

1. "*New Trends in Nonlinear Dynamics and Control and their Application*". Springer-Verlag, Heidelberg, 2003. ISBN 3-540-40474-0. (with W. Kang and C. Borges and supported by NSF and AFOSR)

Journal articles and book chapters

(1) B. Li, J. Liu, and M. Xiao. A new multigrid method for unconstrained parabolic optimal control problems, *Journal of Computational and Applied Mathematics*, vol. 326, pp. 358-373, 2017.

(2) X. Dai, T. Huang, Y. Huang, Y. Luo, G. Wang, and M. Xiao. Chaotic behavior of discrete-time linear inclusion dynamical systems, *Journal of the Franklin Institute*, vol. 354, no. 10, pp. 4216-4155, 2017.

(3) M. Yang, D. Che, W. Liu, Z. Kang, C. Pong, M. Xiao, and Q. Chen. On identifiability of 3-tensors of multilinear rank $(1, L_r, L_r)$, *Big Data and Information Analytics*, American Institute of Mathematical Sciences, vol 1, no. 4, pp. 391-401, 2017.

(4) X. Dong and M. Xiao. Output feedback admissible control for singular systems: Delta operator (discretised) approach, *EAJAM*, vol. 7, no. 2, pp. 248-268, 2017.

(5) J. Liu, B. D. Froese, A. M. Oberman, and M. Xiao. A multigrid scheme for 3D Monge Ampre equations, *Computer Mathematics*, vol. 93, no. 9, pp. 1850-1866, 2017.

(6) R. Ke, W. Li, and M. Xiao. Characterization of extreme points of multi-stochastic tensors, *Computational Methods in Applied Mathematics*, 16(3), pp. 459-474, 2016.

(7) J. T. Cronin, J. D. Reeve, D. Xu, M. Xiao, and H. S. Stevens. Variable prey development time suppresses predator-prey cycles and enhances stability, *Ecology Letters*, 19(3), pp. 318-327, 2016.

(8) J. Liu and M. Xiao. A semi-smooth Newton-multigrid method for semilinear parabolic optimal control problems, *Computational Optimization and Applications*, 63(1), pp. 69-95, 2016.

(9) J. Liu, Y. Huang, H. Sun, and M. Xiao. Numerical methods for weak solution of wave equation with van der Pol type nonlinear boundary conditions. *Numerical Methods for Partial Differential Equations*, 32(2), pp. 373-398, 2016.

(10) J. Liu and M. Xiao. A new semi-smooth Newton multigrid method for control-constrained semilinear elliptic PDE problems, *Journal of Global Optimization*, vol.64, no. 3, pp. 451-468, 2016.

(11) B. Li, J. Liu, and M. Xiao. A fast and stable preconditioned iterative method for optimal control problem of wave equations, *SIAM J. on Scientific Computing*, 37(6), pp. A2508-A2534, 2015.

(12) W. Zhang, C. Li, T. Huang, and M. Xiao. Synchronization of neural networks with stochastic perturbation via aperiodically intermittent control, *Neural networks*, vol. 71, pp. 105-111, 2015.

(13) X. Zhou, C. Li, T. Huang, and M. Xiao. Fast gradient-based distributed optimization approach for model predictive control and application in four-tank benchmark, *Control Theory & Applications*, IET, vol. 9, issue 10, pp. 1579-1586, 2015.

(14) S. Wen, Z. Zeng, T. Hunag, X. Xu, and M. Xiao. New criteria of passivity analysis for fuzzy time-delay systems with parameter uncertainties, *IEEE Trans. on Fuzzy Systems*, 23(6), pp. 2284 - 2301, 2015.

(15) X. Dong and M. Xiao. D-admissible hybrid control of a class of singular systems, *Nonlinear Analysis: Hybrid Systems*, vol. 17, pp.94-110, 2015.

(16) X. Liu, Y. Huang, and M. Xiao. Approximately nearly controllability of discrete-time bilinear control systems with control input charactistic, *Journal of the Frankin Institute*, vol. 352, No.4, pp.1561-1579, 2015

(17) X. Dai, Y. Huang, and M. Xiao. Pointwise stability of homogeneous matrix-valued Markovian processes, *IEEE Trans. Automat. Control*, vol. 60, no. 7, pp.1898-1903 , 2015.

(18) X. Dong and M. Xiao. H^∞ control of singular systems via Delta operator method, *International Journal of Control Automation and Systems*, vol. 13, no. 3, pp.643-651, 2015.

(19) M. Xiao and T. Huang. Inertial manifold and state estimation of dissipative nonlinear PDE systems, *Applicable Analysis*, vol. 93, No. 11, pp.2386-2401, 2014.

(20) X. Gao, T. Huang, Y. Huang, J. Liu, and M. Xiao. Observer design for axial flow compressor, *ASME J. Dynamic Systems, Measurement, and Control*, vol. 136(5), 051017, pp. 1-12, 2014.

(21) J. Wen, H. Liu, S. Zhang, and M. Xiao. A new fuzzy K-EVD orthogonal complement space clustering method, *Neural Computing and Applications*, 24(1), pp. 147-154, 2014.

(22) M. Xiao and J. Xu. Sharp bounds of the inverse matrices resulted from five-point stencil in solving Poisson equations, *Linear Algebra and its Applications*, vol. 444, pp. 231-245, 2014.

(23) X. Dong and M. Xiao. Admissible control of linear delta operator systems, *Circuits, Systems, and Signal Processing*, 33(7), pp. 2043-2064, 2014.

(24) X. Gao, T. Huang, Z. Wang, and M. Xiao. Exploiting a modified Gray model in black propagation neural networks for enhanced forecasting, *Cognitive Computation*, 6(3), pp. 331-337, 2014.

(25) X. Dai, Y. Huang, and M. Xiao. Extremal ergodic measures and the finiteness property of matrix semigroups, *Proc. Amer. Math. Soc.*, 141, 393–401, 2013.

(26) J. Liu and M. Xiao. Rank-one characterization of joint spectral radius of finite matrix family, *Linear Algebra and its Applications*, 438(8), pp. 3258-3277, 2013.

(27) M. Xiao, J. D. Reeve, D. Xu, and J. Crorin, Estimation of the diffusion rate and crossing probability for biased edge movement between two different type of hibatat, *Journal of Mathematical Biology*, vol. 67, no. 3, pp. 535-567, 2013.

(28) X. Dai, Y. Huang, and M. Xiao. Asymptotic stability of time-varying switched systems under perturbations, *J. Math. Anal. Appl.*, vol. 408, no. 1, pp. 268-274, 2013.

(29) J. Xu and M. Xiao. On the iterative refinement of matrix upper bounds for the solutions of continuous coupled algebraic Riccati equations, *Automatica*, vol. 49, no. 7, pp. 2168-2175, 2013.

(30) W. Kang, A. J. Krener, M. Xiao, and L. Xu. A survey of observer for nonlinear dynamical

systems, *Data Assimilation for Atmospheric, Oceanic, and Hydrological Applications*, vol. II, Springer-Verlag, pp. 1-25, 2013.

(31) M. Xiao. Discussion on: "New stabilization and tracking control laws for electrohydraulic servomechanisms", *European Journal of Control*, vol. 19, no. 1, pp. 83-84, 2013.

(32) L. Li, Y. Huang, and M . Xiao. Observer design for wave equations with van der Pol type boundary conditions, *SIAM J. Control Optim.*, Vol. 50, No. 3, pp. 1200-1219, 2012.

(33) X. W. Beardsley, B. Field, and M. Xiao, Mean-Variance-Skewness-Kurtosis portfolio optimization with return and liquidity, *Comm. in Mathematical Finance*, vol. 1, pp. 13-49, 2012.

(34) X. Dai, Y. Huang, J. Liu, and M. Xiao. The finite-step realizability of the joint spectral radius of a pair of dxd matrices one of which being rank-one, *Linear Algebra and its Applications*, 437(7), pp. 1548-1561, 2012.

(35) J. Wen, M. Xiao, and J. Xu. Control of Hopf bifurcations of nonlinear infinite-dimensional systems: application to axial flow engine Compressor, *Applicable Analysis*, 91(11), pp. 1959–1980, 2012.

(36) C. Li, T. Huang, Y. Gao, and M. Xiao. Anticipating synchronization through optimal feedback control, *J. Global Optimization*, Vol. 52, No. 2, pp. 281-290, 2012.

(37) J. Wang, Z. Yang, T. Huang, and M. Xiao, Synchronization criteria in dynamical networks with nonsymmetric coupling and multiple time-varying delays, *Applicable Aanlysis*, Vol. 91, No. 5, pp. 923-935, 2012.

(38) X. Dai, Y. Huang, and M. Xiao. Realization of joint spectral radius via Ergodic theory, *Elctron. Res. Announc. Math. Sci.*, Vol. 18, pp. 22-30, 2011.

(39) J. Xu and M. Xiao. A characterization of the generalized spectral radius with Kronecker powers, *Automatica* , Vol. 47, No. 7, pp. 1530-1533, 2011.

(40) J. Wang, Z. Yang, T. Huang, and M. Xiao. Local and global exponential synchronization of complex delayed dynamical network with general topology, *Discrete and Continuous Dynamical Systems-B*, Vol. 16, No. 1, pp. 393-408, 2011.

(41) X. Dai, Y. Huang, and M. Xiao. Periodically switched stability induces exponential stability of discrete-time linear switched systems in the sense of Markovian probabilities, *Automatica*, Vol. 47, No. 7, pp. 1512-1519, 2011.

(42) Y. Huang, J. Lou, T. Huang, and M. Xiao. The set of stable switching sequences for discrete-time linear switched. systems, *J. Math. Anal. Appl.*, 377, pp. 732-743, 2011.

(43) X. Dai, Y. Huang, and M. Xiao. Criteria of stability for continuous-time switched systems by using Liao-type exponents, *SIAM J. Control Optim.*, Vol. 48, No. 5, pp. 3271-3296, 2010.

(44) D. Xu, J. D. Reeve, X. Wang, and M. Xiao. Developmental variability and stability in continuous-time host-parasitoid models, *Theoretical Population Biology*, Vol. 78, No. 1, pp. 1-11, 2010.

(45) M. Xiao. The construction of nonlinear discrete-time observers with local Lipschitz conditions, *European Journal of Control*, Vol. 15/2, pp. 131-142, 2009.

(46) Y. Lin, X. Gao, and M. Xiao. High order finite difference method for 1D nonhomogeneous heat equations, *Numerical Methods for Partial Differential Equations*, Vol. 25, No. 2, pp. 327-346, 2009.

(47) M. Xiao. State estimation for nonlinear discrete-time systems with input signals, *IMA J. Math. Control Inform.*, Vol. 26, pp. 141-150, 2009.

(48) J. Lei, J. Wen, Min A, and M. Xiao. Approximation of Hopkins equation in Hilbert space and its application in polarized illumination modeling, *Appl. Aanl* , Vol. 88, No. 4, pp. 517-528, 2009.

7

(49) M. Xiao. Quantitative characteristic of rotating stall and surge for Moore-Greitzer PDE model of an axial flow compressor, *SIAM J. Appl. Dyn. Syst.*, Vol. 7, No. 1, pp. 39-62, 2008.

(50) X. Dai, Y. Huang, and M. Xiao. Almost sure stability of discrete-time switched linear systems: a topological point of view, *SIAM J. Control Optim.*, Vol. 47, No. 4, pp. 2137-2156, 2008.

(51) M. Xiao, C. Kravaris, and N. Kazantzis. On the nonlinear discrete-time observer design problem, *Int. J. Modeling Identification and Control*, Vol. 4, No. 1, pp. 3-11, 2008.

(52) C. Kravaris, V. Sotiropoulos, C. Georgiou, N. Kazantzis, M. Xiao, and A.J. Krener. Nonlinear observer design for state and disturbance estimation. *Systems & Control Lett.*, 56(11-12), pp. 730-735, 2007.

(53) M. Xiao. The global existence of nonlinear observers with linear error dynamics: a topological point of view, *Systems & Control Letters*, 55, no.10, pp. 849-858, 2006.

(54) M. Xiao, M. Novy, J. Myatt, and S. Banda A. Rotary Control of the Circular Cylinder Wake: An Analytic Approach, *Int. J. Innovational Computing and Information Control*, Vol. 2, No. 4, pp 723-735, 2006.

(55) M. Xiao, Y. Lin, J. Myatt, R. Camphouse, and S. Banda. Rotation Implementation of a Circular Cylinder in Incompressible Flow via Staggered Grid Approach, *J. Appl. Math. & Computing*, Vol. 22, No. 1-2, pp. 67-82, 2006.

(56) M. Xiao. Characterization of critical eigenvalues of axial flow engine compressor PDE model, *Applicable Analysis*, Vol. 85, no. 9, pp. 1123-1142, 2006.

(57) M. Xiao. A direct method for the construction of nonlinear discrete-time observer with linearizable error dynamics, *IEEE Trans. Automat. Control*, **51**, no. 1, pp. 128-135, 2006.

(58) M. Xiao. Optimal control of nonlinear systems with controlled transitions, *Nonlinear Dynamics and Systems Theory*, **5**(2), pp. 177–188, 2005.

(59) A. J. Krener and M. Xiao. Nonlinear observer design for smooth systems, *Chaos in Automatic Control*, W. Perruquetti and J-P Barbot, eds., Marcel Dekker, pp. 411–422, 2005.

(60) M. Xiao. Optimum H-infinity designs of infinite dimensional systems under sampled state measurements, *Industrial Mathematics and Statistics*, J. C. Misra ed, Narosa Publishing House, New Delhi, pp. 317–344, 2003.

(61) W. Kang, M. Xiao, and I. Tall. Controllability and local accessibility- a normal form approach. *IEEE Trans. Automat. Control*, Vol. 48, No. 10, pp. 1724–1736, 2003.

(62) M. Xiao and T. Başar. Optimal control of nonlinear uncertain systems of infinite-horizon via finite-horizon approximation, *Nonlinear Dynamics and Systems Theory*, **3**(2), pp. 117–128, 2003.

(63) W. Kang and M. Xiao. Control of Hopf bifurcations for infinite-dimensional nonlinear systems, *New Trends in Nonlinear Dynamics and Control and their Application*, Springer-Verlag, pp. 101–116, 2003.

(64) M. Xiao, C. Kravaris, N. Kazantzis, and A. J. Krener. Nonlinear discrete-time observer design with linearizable error dynamics, *IEEE Trans. Automat. Control*, pp. 622–626, 2003.

(65) A. J. Krener and M. Xiao. Observers for linearly unobservable nonlinear systems, *Systems & Control Letters*, Vol. 46, pp. 281–288, 2002.

(66) M. Xiao. H^∞-optimal boundary control of hyperbolic systems with sampled measurements, *Dynamics of Continuous, Discrete and Impulsive Systems (series A: Mathematical Analysis)*, Vol. 9, pp. 457–479, 2002.

(67) A. J. Krener and M. Xiao. Nonlinear observers design in the Siegel domain, *SIAM J. Control Optim.*, Vol.41, No.2, pp. 932–953, 2002.

(68) M. Xiao. Existence of solutions of two generalized Riccati operator equations and their representation, *Applicable Analysis*, pp. 325–354, Vol 78, 2001.

8

(69) M. Xiao and T. Başar. Center manifold of the viscous Moore-Greitzer PDE model, *SIAM J. of Applied Mathematics*, Vol. 61, No. 3, pp. 855–869, 2000.

(70) M. Xiao and T. Başar. Finite-dimensional compensators of H-infinity-optimal control for infinite-dimensional systems via Galerkin-type approximation, *SIAM J. Control Optim.*, Vol. 37, No. 5, pp. 1614–1647, 1999.

(71) M. Xiao and T. Başar. Analysis and control of multi-mode axial flow compression system models, *ASME J. Dynamic Systems, Measurement and Control*, Volume 122, no. 3, pp. 393–401, 2000.

(72) M. Xiao and T. Başar. Viscosity solution of a class of coupled HJB equations. *J. of Inequalities and Applications*, Vol.6, pp. 519–545, 2001.

(73) M. Xiao and T. Başar. H-infinity controller design via viscosity supersolutions of the Isaacs equations, *Stochastic Analysis, Control, Optimization and Applications, Systems Control Found. Appl.*, W.M. McEneaney, G. Yin, and Q. Zhang (Eds.), Birkhäuser, Boston, pp. 151–170, 1999.

(74) M. Xiao and T. Başar. H-infinity control of a class of infinite-Dimensional linear system with nonlinear output, *Annals of Dynamic Games*, Birkäuser, Vol. 6, pp. 38–63, 1999.

(75) W. Chan, M. Xiao, and Y. Zhao. Feedback stabilization of a class of multivalued nonlinear distributed parameter systems, *Nonlinear Analysis: Theory, Methods & Applications*, 6(12), pp. 911–921, 1992.

(76) K. Zhong and M. Xiao. Stabilization of elastic beams in oscillating systems (Chinese), *Acta Sci. Natur. Univ. Sunyatseni* 30 (1991), no. 1, pp. 130–134.

(77) M. Xiao. The existence and uniqueness of a class of hyperbolic partial differential equations, *Journal of the Graduate School of Zhongshan University* 28(4), pp. 1023–1036, 1988.

REFEREED CONFERENCE PROCEEDINGS

(78) B. Li, J. Liu, and M. Xiao. An eective computational scheme for the optimal control of wave equations, *Proc. of the 10th IFAC Symposium on Nonlinear Control Systems*, vol. 49, no. 18, pp. 891-896, 2016

(79) B. Li, J. Liu, and M. Xiao. Leapfrog multigrid methods for parabolic optimal control problems, *Proc. of the 27th IEEE CCDC*, pp.143-149, 2015.

(80) J. Liu and M. Xiao. A new semi-smooth Newton multigrid method for parabolic PDE optimal control problems, *Proc. of the 53rd IEEE CDC*, pp. 5569-5573, 2014.

(81) X. Dong, M. Xiao, W. He, and Y. Wang. H-infinty control of singular systems via Delta operator approach, *Proc. of the 13th International Conference on Control, Robotics & Vision*, pp. 407-412, 2014.

(82) X. Dong and M. Xiao, H-infinity performance analysis of singular systems via Delta operator method, *Proc. of 2014 ICCAS*, pp. 1255-1260, 2014.

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Community Service

(1) Math Coach of Unity Point Elementary School; (2) Carbondale Chinese Culture Learning Club broad member; (3) 2015 first place, 2016 second place, 2017 first place MATHCOUNTS head coach award of Egyptian Chapter.